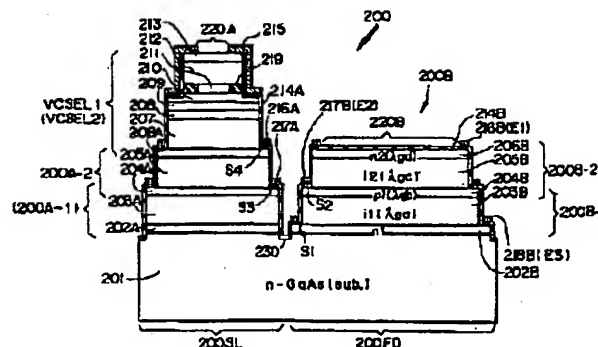


Patent Abstracts of Japan

TITLE : MONOLITHIC LIGHT RECEIVING AND
EMITTING ELEMENT AND OPTICAL
COMMUNICATION SYSTEM



SOLUTION: A photo diode formation region 200FD and a face light emitting laser formation region 200SL are included in a high-resistance semiconductor substrate 201, and these photo diode formation region and the face light emitting laser formation region are electrically separated, and a photo diode 200B has first and second pin-type photo diodes 200B-1 and 200B-2, which have different band widths of light absorbing layers, in a stack which has a plurality of semiconductor layers stacked on an n-type semiconductor substrate 201. The diodes are stacked by priority of smaller band width from the side of the semiconductor substrate 201, and a light receiving part 220B is made on the side of the diode 200B-2 which has a light absorbing layer larger in band width, and this diode 200B can electrically convert two different wavelengths of lights.

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